Strange Visitors to a Suburban Garden

By M. J. Sterling*

I have been running a 125 watt mercury vapour trap in the back garden of the family house in suburban Winchester for some three years, and throughout that period I have been astonished by a great number of most unexpected, and I may say most welcome, stray insects, particularly those associated with the river valleys in Hampshire. The trap is run on a fairly typical piece of Hampshire dry chalk dowland, and is almost entirely enclosed by beech trees and a suburban housing estate, thus it would be fair to expect that catches would consist almost entirely of downland or of beech-feeding species. This not being the case, particularly with regard to the number of insects usually associated with the reedbed and water meadow plus sallow carr vegetation in the river valleys, I have attempted to find out under what conditions these insects stray, and the place of origin of the strays.

As regards the origin of these species, the nearest stretch of productive river valley is that portion of the River Itchen which runs through VC 12 (North Hampshire), thus in order to make a comparison of captures in that area with captures from the downs, a trap with a 6 or a 15 watt actinic tube was run on about 15 occasions during the year. Catches in this trap did not give a really coherent picture of the lepidoptera contained in the valley, thus I have also drawn on information provided in "The Butterflies and Moths of Hampshire and the Isle of Wight" (1975) by B. Goater, concerning this area.

The actinic traps showed that if, as occasionally happened this summer, the air temperature dropped below 7°C. the moths in the marshes showed an almost total disinclination to move. On the occasions this happened the only species recorded were *Mythimna pallens* Linn., *Agrotis exclamationis* Linn., *Diarsia rubi* View., *Arenostola phragmitidis* Hübn., *Hydraecia petasitis* Doubl., *Thumata senex* Hübn.; all species which could have bred within 5 yards of the location of the trap. If the temperature remained above 7°C. there was a greater diversity of species, numbers increasing in proportion to the temperature until, on nights when the temperature did not drop below 11°C. one might expect, depending on the time of year, from the reedbeds: *Mythimna obsoleta* Hübn., *Mythimna straminea* Treits., *Chilodes maritima* Taus., *Rhizedra lutosa* Hübn., *Archanara geminipuncta* Haw., *Photedes pygmina* Haw.; from the water meadows: *Celaena haworthii* Curt., *Schrankia costaestrigalis* Steph., *Apamea unanimis* Hübn., *Apamea ophiogramma* Esp.; and from the sallow carr: *Xanthia togata* Esp., *Clostera curtula* Linn., *Harpyia furcula* Clerck., *Pterostoma palpina* Clerck.

It has always been known that if the night minimum air temperature does not drop below 15°C., insects will tend to stray from the marshes, but empirical evidence, for this year

* 2 Hampton Lane, Winchester, Hants. and Brasenose College, Oxford.

at least, tends to show that the phenomenon of straying occurs at much lower temperatures. On the 15th May, when the air temperature dropped to a mere 4°C., the 125 watt M.V. produced a fairly fresh *Harpyia furcula* Clerck., which is most unusual up on the chalk, but common in the river valley. Apart from this complete perversity in the period 10.vii to 16.vii.76 inclusive, in which the modal night minimum temperature was 10°C. and the mean 9.8°C., seven river valley insects appeared in the M.V. trap including: 3 *Apamea ophiogramma* Esp., 2 *Mythimna straminea* Treits., 1 *Coenobia rufa* Haw. and 1 *Hypenodes turfosalis* Wocke. Admittedly this was the week immediately following the period of intense heat, but three of the insects came on the 16th. Furthermore, between the 16th and the end of July when the average night minimum temperature was under 12°C. a further six insects including: 2 *Harpyia furcula* Clerck., 1 *Apamea ophiogramma* Esp., 1 *Nymphula nymphaeata* Linn., 1 *Coenobia rufa* Haw. and 1 *Celaena leucostigma* Hübn. appeared. It is just possible to argue that the frequency of these strays was caused by the heatwave upsetting their normal pattern of development in some way, but this would not, I think, hold true for the 2 *Celaena haworthii* Curt., caught on the 9th and the 22nd August or indeed the *Thumata senex* Hübn. and *Donacaula mucronellus* D. & S., taken on the 16th June, or the *Crambus pascuella* Linn., taken on the next night, a week before the heatwave set in, or indeed the *Lobophora halterata* Hufn., which braved, or was carried by, a wind of some 16 m.p.h. to arrive in the trap on the 1st June.

Throughout the period from the 23rd June to the 9th July the temperature dropped below 15°C. on only one occasion, on the night of the 24th June, when nothing of interest turned up. During this period the garden trap suffered two invasions, one in the period between the 26th June and 1st July, and the other between the 4th and 8th July. In the first of these periods I recorded: 2 *Eustrotia uncula* Clerck., 1 *Cleoceris viminalis* Fab., 3 *Chilodes maritima* Taus., 1 *Lobophora sexalata* Retz., 2 *Mythimna pudorina* D. & S., 2 *Enargia ypsillon* D. & S. and 1 *Schrankia costaestrigalis* Steph. The second produced: 2 *Mythimna straminea* Treits., 3 *Cleoceris viminalis* Fab., 3 *Schrankia costaestrigalis* Steph., 1 *Apamea ophiogramma* Esp., 1 *Enargia ypsillon* D. & S. and 1 *Nymphula nymphaeata* Linn.

The critical figure for the migration of marshland lepidoptera I would agree was 15°C., but on the basis of this research I would mark 15°C. as the point at which the tendency to stray becomes a wholesale exodus, and that barring the occasional freak, such as my perverse *furcula,* one might expect stray insects from the marshes in a trap if the temperature does not fall below about 11°C.

It would be valid criticism of these conclusions to say that migration is a matter of degree and that whereas a trap placed two miles from the nearest river valley, as the M.V. trap is, will produce marshland species at temperatures of

11°C., a trap placed five or six miles away requires that the temperature should not drop below 15°C. in order to produce the same insects, and it would seem plausible that the great majority of marshland insects caught on the chalk immediately North of Winchester came from the nearest available reed-beds, water meadows and carr in the Itchen valley. However, there is the strongest possible evidence to suggest that a fair number of these insects came either from much further down the valley in the underworked part of VC 11 (South Hampshire), or that they did not come from the Itchen at all, but flew seven or eight miles across the downs from the Test valley.

As I have said previously, the nearest stretch of really productive river valley is that part of the Itchen which runs through VC 12. The impression I have from "The Butterflies and Moths of Hampshire and the Isle of Wight", is that this part of the valley has been worked very thoroughly, thus one would expect the strays taken on the downs to reflect the composition of the moth population in that part of the valley, as it is the locality nearest to the downland trap. This is by no means the case. Of the species taken in the M.V. trap, 10 out of 20 are accorded the status of scarce, or rarer, by recorders in the Itchen valley. These include: *Mythimna pudorina* D. & S., *Celaena leucostigma* Hübn., *Chilodes maritima* Taus., *Eustrotia uncula* Clerck., *Hypenodes turfosalis* Wocke., *Lobophora halterata* Hufn., *Harpyia bifida* Brahm, *Harpyia furcula* Clerck., *Donacaula mucronellus* D. & S. and *Crambus pascuella* Linn. Of those insects accorded the status of common in that part of the Itchen valley, *Mythimna obsoleta* Hübn. and *Archanara geminipuncta* Haw. did not appear at all in spite of the fact that conditions were favourable. Furthermore, in the case of *Chilodes maritima* Taus. whilst three specimens were caught in the VC 12 Itchen valley in atrocious condition, at the same time the garden M.V. light produced three fairly fresh specimens which may be taken as an indication of emanation from another locality.

I am not really conversant with the idea of flight lines, but I would assume that one of the major determinants is the prevailing direction of air movement. If this is so, it would need an easterly, or at worst a north-easterly, breeze to encourage insects from the VC 12 Itchen valley to move towards the trap, and between May and September this happened for a prolonged period only once, producing 2 *Celaena haworthii* Curt., a VC 12 speciality to the extent that those two are new vice-county records for South Hampshire. Marshland insects came to the trap on 26 nights between May and September. On five occasions the wind was blowing from the south, and on the other 19 it blew from the north or west. On this evidence I think it fair to assume that some, if not most, of these insects do not come from the nearest stretch of river valley north of Winchester, but come from the Test, seven or eight miles west of Winchester or from a more

southerly part of the Itchen, five or six miles away. I favour the idea that the insects fly over from the Test valley, firstly because on 19 occasions out of 26 the wind would have tended to carry specimens in the right direction and secondly, because I can see no reason for the insects which occur eight miles upstream in VC 12 not occurring in the more southerly part of the valley, as there is a strong tendency for these insects to stray, and it would seem reasonable to assume that for every specimen that strayed away from its natural habitat and ended up on top of a down, there will be several less adventurous individuals straying, but keeping more or less to their particular natural habitats, foodplants, etc. in the river valley.

In conclusion, it would seem that most of the marshland insects coming to my trap on the downs two miles above the Itchen valley come not from that source but from the Test valley, some seven or eight miles away. Furthermore, the fact that half of these insects were caught when the average night minimum air temperature was only between 10°C. and 11°C. tends to show that marshland moths will stray considerable distances on a relatively cold night.

Some Unusual Dates at Woking during 1976. — The phenomenal weather during the summer of 1976 brought out many species often several weeks ahead of their normal time of emergence and also produced a lot of second and third broods in August and the early autumn which are designated by an asterisk. I have thought it of interest to record the following in chronological order: —

June 12th, *Comibaena pustulata* Hufn. and *Cleora rhomboidaria* D. & S.; June 13th, *Leucania pallens* L. and *Laspeyria flexula* D. & S.; June 15th, *Plusia chrysitis* L. and *Alcis repandata* L.; June 16th, *Habrosyne derasa* L. and *Ellopia fasciaria* L.; June 17th, *Diacrisia sannio* L.; June 25th, *Cryphia perla* D. & S. and *Parastichtis suspecta* Hübn.; June 25th, *Euproctis similis* L.; June 27th, *Tethea duplaris* L. and *Ectropis bistortata* Borkh.*; June 26th, *Euxoa nigricans* L.; June 29th, *Eilema complana* L.; June 30th, *Eilema deplana* Esp.; July 1st, *Drepana binaria* Hufn.*, *Apamea scolopacina* Esp. and *Procus literosa* Haworth; July 3rd, *Crocallis elinguaria* L.; July 10th, *Apamea secalis* L. and *Colocasia coryli* L.*; July 11th, *Triphaena comes* Hübn.; July 13th, *Amphipyra pyramidea* and *Harpyia furcula* Clerck*; July 14th, *Amathes baja* D. & S.; July 16th, *Calothysanis amata* L.*; July 17th, *Amathes xanthographa* L.; July 18th, *Nonagria typhae* Thunb.; July 30th, *Catocala nupta* L.; August 2nd, *Semiothisa alternaria* Hübn.*; August 23rd, *Cosymbia albipunctata* Hufn.*; September 1st, *Calothysanis amata* L.*; September 12th, *Scopula imitaria* Hübn.*; September 18th, *Sterrha aversata* L.*; September 20th, *Drepana binaria* Hufn.*; October 22nd, *Deuteronomos fuscantaria* Stephens. — C. G. M. de Worms, Three Oaks, Woking.